

WHAT IS CLAIMED IS:

1. A process of forming a protection layer with an improved level of gloss on top of a thermal dye transfer image in a thermal print comprising: (a) imagewise-heating a dye-donor element comprising a support having thereon a dye layer comprising an image dye in a binder, said dye-donor element being in contact with a dye-receiving element, thereby transferring a dye image to said dye-receiving element at a line time of 0.4 to 2 milliseconds to form said dye transfer image; and (b) thermally transferring a protection layer on top of said transferred dye image at a line time of 0.4 to 2 milliseconds; said protection layer comprising an effective amount of at least gloss-enhancing compound that consists of an organic molecule that is essentially colorless, does not scatter light, is substantially not absorbing of light at a wavelength from 400 to 800 nm, and has a maximum absorption at a wavelength less than 400 nm.
2. The process of claim 1 wherein the gloss of the transferred protection layer is less than 69 in the absence of said at least one gloss-enhancing compound and at least 72-85 or greater in the presence of the gloss-enhancing compound.
3. The process of claim 2 wherein the gloss-enhancing compound provides an improvement in gloss, as measured by the Gloss Test, of at least 2 gloss units.
4. The process of claim 3 wherein there is an improvement in gloss of at least 3 gloss units as measured.
5. The process of claim 1 wherein the gloss-enhancing compound is a benzotriazole or triazine.

6. The process of claim 1 wherein the line time is 0.5 to 1.4 milliseconds in (a) and (b).

7. The process of claim 1 wherein the Tg of the surface material on the protection layer in contact with the dye-receiving element is in the range of 100 to 125°C.

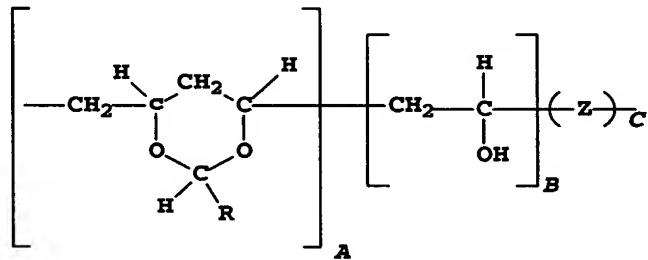
8. The process of claim 7 wherein the Tg of the surface material is below 120°C.

9. The process of claim 1 wherein the protection layer is heated by the thermal head at a temperature of 130 to 150°C.

10. The process of claim 1 wherein the thermal print, as measured by a Gloss Test, has a gloss of at least 70.

11. The process of claim 1 wherein the process employs a single print thermal head.

12. The process of claim 1 wherein at least the surface material of said protection layer comprises a polymer represented by the following structure:



wherein:

R is H, CH₃ or C₆H₅;

A is at least about 25 mole percent;

B is from about 5 to about 75 mole percent;

Z is another monomer different from A and B such as vinyl acetate, vinyl chloride, styrene, methyl methacrylate, butyl acrylate, isopropyl acrylamide, and acrylate ionomer;

A+B is at least about 65 mole percent; and

A+B+C=100.

13. The process of claim 1 wherein at least a surface material of said protection layer comprises a polymer selected from the group consisting of poly(vinyl formal), poly(vinyl benzal) or poly(vinyl acetal) containing at least about 5 mole % hydroxyl, poly(vinyl)butyral, and poly(methylmethacrylate), and combinations thereof.

14. The process of claim 13 wherein at least a surface material of said transferable protection layer comprises poly(vinyl acetal).

15. The process of claim 1 wherein said dye-donor element is a multicolor element comprising repeating color patches of yellow, magenta and cyan image dyes, respectively, dispersed in a binder, and a patch containing said protection layer.

16. The process of claim 1 wherein separate thermal print heads are employed for imagewise heating in step (a) and non-imagewise heating in step (b).

17. The process of claim 16 wherein a plurality of separate thermal print heads are employed for imagewise heating, respectively, a plurality of color patches in step (a).